YASHINA, N.M.

Н. М. Яшина защитила 24/X 1960 г. в Совете Киргизского медицинского института диссертацию на тему *«К оценке действия коргликона при сердечной недостаточности с особым учетом результатов электрокардиографического исследования»*.

Приведены клинические наблюдения над действием коргликона у больных пороками сердца, кардиосклерозом и синдромом легочного сердца при недостаточности кровообращения. Установлены показания к применению коргликона, его дозировка и преимущества по сравнению с дигиталисом и строфантином различными гемодинамическими тестами и электрокардиографией.

Candidate of Medical Sciences

Dissertations approved by the Higher Attestation Commission in January and February of 1961. Terap. arkh. no.6: 117-121 '61

KALABINA, A.V.; TYUKAVKINA, N.A.; YASHINA, O.G.; MAKHNO, L.P.; FROLOV, Yu.L.

Synthesis and properties of vinyl ethers of some higher phenols.
Izv.vys.ucheb.zav.;khim.i khim.tekh. 4 no.4:626-631 '61.
(MIRA 15:1)

1. Irkutskiy gosudarstvennyy universitet imeni Zhdanova, kafedra vysokomolekulyarnykh soyedineniy i organicheskogo sinteza.
(Phenols) (Ethers)

KOTLYAREVSKIY, I.L.; VERESHCHAGIN, L.I.; YASHINA, O.G.;
VASIL'YEV, Ye.K.; FAYERSHTEYN, Yu.M.

Pyridylacetylenes. Report No.1: Synthesis of pyridylacetylene alcohols. Izv. Sib. otd. AN SSSR no.9:80-87 '62.
(MIRA 17:8)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

KOTLYAREVSKIY, I.L.; VERESHCHAGIN, L.I.; YASHINA, O.G.

Pyridylacetylenes. Report No. 2: Synthesis of pyridylacetylene alcohols by Favorskii's method. Izv. Sib. otd. AN SSSR no. 11: 148-150 '62. (MIRA 17:9)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR, Irkutsk.

KHANLAROVA, A.G.; MIRBAGIROVA, Kh.M.; ISKENDEROV, I.A.; YAGMINA, R.A.

Studying the aging of bituminous coatings in marine conditions.
Azerb.neft.khoz. 36 no.1:42-44 Ja '57. (MLRA 10:5)
(Corrosion and anticorrosives)

KHANLAROVA, A.G.; YASHINA, R.A.; MIRBAGIROVA, Kh.M.

Oxidation of bituminous coatings on metals applied by the cold method in offshore operations. Azerb.neft.khoz. 37 no.12:42-44 D '58. (MIRA 12:3)

(Bitumen)

R. M. YASHINA

1 A new province of alkaline rocks in southeastern Tuva. R. M. Yashina. *Doklady Akad. Nauk S.S.S.R.* 105, 1321–4 (1955). The Sangilen Highlands are characterized by a great no. of intrusive bodies of alk. rocks, from 0.2 to 45 sq. km. in area, especially in the upper valleys of the Chartys and Balyktyg-Khem rivers. They are chiefly nepheline syenites, urtites, ijolite-urtites, augite-ijolites, schorlomite ijolites, melteigites, ringites, kosenites, theralites, and essexites. Unique are rare calcite-nepheline rocks, related to Proterozoic and Cambrian marbles, course-granular limestones, and greenstones. Arkhangel'skaya and Kats explained the alk. series as assimilation products of calcareous rocks by granites and granodiorites intruded *in situ*. The Sangilen complex is in its petrographic character similar to the well-known massive of the Kola Penninsula. The injection of the alk. intrusions extends over relatively wide geol. horizons, earlier or later than the post-Caledonian granites, granite porphyries, aplites, syenites, etc. Characteristic is the formation of fluorite and zircon, olivine, Ti-magnetite, Ti-augite, and apatite which indicate an extensive differentiation of granite magmas, and an assimilation of carbonate rocks, assocd. with a desilification. Three branches are distinguished: subalk. acidic rocks with K > Na; alk. rocks, with Na > K, unsatd. with SiO_2, contg. nepheline; basic rocks, with Ca > (Na + K), unsatd. in SiO_2, enriched in CaO from assimilated carbonate material, with olivine, schorlomite. Small-sized dike injections of alk. rocks occur between the marbles and granites, hornblende-nepheline syenites, biotite-nepheline syenites, of metasomatic origin. Albitization is abundant, in aegirine mariupolites and albitites; typical hybrids occur in tectonic marbles, in which occur also assimilated carbonate xenoliths with apatite, andradite, schorlomite, diopside, further layers of the carbonate-nephelline rocks mentioned, and true carbonatites. W. Eitel

YASHINA, R.M.

SUBJECT: USSR/Geology 11-5-2/15

AUTHOR: Yashina, R.M.

TITLE: Alkaline Rocks of South-Eastern Tuva (Shchelochnyye porody yugo-vostochnoy Tuvy)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 5, pp 17-36 (USSR)

ABSTRACT: A new province of alkaline rocks was discovered in the territory of south-eastern Tuva. Over 20 intrusive bodies of alkaline rocks were found by various explorers within its boundaries.

The author describes various intrusive, contact and metasomatic alkaline rocks, peculiarities of their composition and mineralization, and draws the following conclusions:

1. The new province of alkaline rocks has not only great scientific but also practical importance, because there are prospects of finding there rare-metal ores and potential possibilities of nepheline utilization as raw material with a high alumina content;

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TITLE: Alkaline Rocks of South-Eastern Tuva (Shchelochnyye porody yugo-vostochnoy Tuvy)

2. The development of alkali magmatism occurred under conditions of existence of a solid massif of the plateau type (the Sangilen highland) which was mainly composed of terrigenous-carbonate rocks of the Proterozoic era. Its completion, as a large geologic structure, was apparently ended during the Cambrian period.

3. A peculiar trait of this new alkaline province is the presence of numerous small bodies, different in shape and material composition, associated usually with tectonic disturbance zones. Both primary-magmatic and metasomatic alkaline rocks take part in their formation.

4. The alkali magmatism of south-eastern Tuva manifests itself in 2 large natural associations of alkaline rocks accompanied with their contact and metasomatic formations. The first natural association includes non-feldspar rocks of the "urtite"-iolite type. The second natural association of alkaline rocks combines feldspathic urtites, various nepheline syenites, quarzitic and non-quarzitic alkaline syenites;

TITLE: Alkaline Rocks of South-Eastern Tuva (Shchelochnyye porody yugo-vostochnoy Tuvy)

5. By their stratification conditions, alkaline intrusions of the iolite-urtite composition are connected with pyroxenites (Dakhunurskaya) and those of nepheline-syenite composition with granites and granite-syenites (Ulanerginskaya and Korgeredabinskaya). This makes probable the existence of a genetic affinity of the first intrusions with basic or ultrabasic magma, and of the second intrusions with granitic magma.

Roentgeno-chemical analyses of 42 zirconium samples from granites, nepheline and alkaline syenites, as well as from accompanying pegmatites, have detected the constant occurrence of hafnium, yttrium, uranium and thorium.

The study of alkaline rocks of south-eastern Tuva has shown that they are heterogeneous: some of them are magmatic formations, others originated as contact rocks, due to effect of alkaline intrusions in enclosing rocks, and still others, metasomatic, originated as a result of activities of post-magmatic solutions arosen by themselves due to alkaline

11-5-2/15

TITLE: Alkaline Rocks of South-Eastern Tuva (Shchelochnyye porody yugo-vostochnoy Tuvy)

intrusions.

The article contains 5 figures, 5 photos and 4 tables.

The bibliography lists 8 Slavic references.

ASSOCIATION: Institute of Ore-Deposit Geology, Petrography, Mineralogy and Geochemistry of the USSR Academy of Sciences in Moskva

PRESENTED BY:

SUBMITTED: 17 February 1957

AVAILABLE: At the Library of Congress

Card 4/4

Yashina, R.M.

AUTHOR: None Given 5-6-10/42

TITLE: Chronicle of the Activity of the Petrography Section (Khronika deyatel'nosti petrograficheskoy sektsii)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 6, pp 118-122 (USSR)

ABSTRACT: The following reports were delivered in the Petrographic Section from 4 April to 7 June 1957:

M.A. Petrova on "Localization of Polymetal Mineralization and Hydrothermal Activity in Deposits of the Zmeinogorsk Ore Field"; Ye.Ye. Miller on "Volcanism of Upper-Proterozoic Time in the Northern Part of Central Kazakhstan and Chingiz"; V.P. Petrov on "Prospect of Petrography Development"; Yu.M. Sheynmann on "Some Regularities in Development of Trappean Formations of Plateaus"; Yu.V. Yunakovskaya on the "Application of Geophysics for Solving Some Problems of Intrusive and Effusive Rock Geology"; R.M. Yashina on "New Alkaline Province in the Southern Part of Tuva"; V.N. Shilov on "Cenozoic Volcanism of the Southern Sakhalin"; S.M. Kravchenko on "New Data on the Petrography of Intrusive Massifs in the Southern Part of the Central Crimea"; S.A. Yushko on the "Mineralogy of Lead-Zinc Mineralization of the Karatau Range"; S.K. Onikiyenko on "Some Peculiarities of Acid Devonian Effusives of the Zmeino-

Card 1/2

gorsk Region in the Rudnyy Altai"; Ye.B. Yakovleva on "Principal Features of Volcanism in the Rudnyy Altai"; L.S. Tarasov on the "Change in Lead Isotopic Composition with Time"; D.I. Gorzhevskiy on "Tectonic Conditions of Effusive Origination in the Rudnyy Altai"; M.S. Bezsmertnaya on "Some Peculiarities in the Origination of Altai Polymetal Ores"; S.A. Gorzhevskaya on "Element—Impurities in Polymetal Deposits of the Rudnyy Altai"; V.N. Gavrilova on "Manifestation of the Monastyrskiy Intrusive Complex in the Altai"; G.F. Shipulin on "History of Intrusive Rocks of the Zyryanovsk Ore Region"; V.I. Chernov on the "History of Paleozoic Magmatism in the Rudnyy Altai", and V.Ye. Gendler on "Ust'-Belevskiy Massif in the North-Western Part of the Rudnyy Altai".

AVAILABLE: Library of Congress

Card 2/2

YASHINA, R.M.

Kharly concentric zonal alkali massif and conditions governing its formation. Trudy IGEM no.76:7-39 '62. (MIRA 15:9)
(Tarbagatay Valley--Geology, Structural)

IASINA, R.M. [Yashina, R.M.]

Magmatic substitution of dolomitic marbles, and its role in the alkaline petrogenesis of the Southeastern Tuva. Analele geol geogr 14 no.4:3-23 O-D '62.

YASHINA, R.S.; GINZBURG, I.I.

Checking on the use of O.P. Mehra, and M.L. Jackson's method of the removal of iron oxides from soils and clays for mineralogical purposes. Kora vyvetr. no.5:398-403 '63. (MIRA 16:7)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR.
(Mineralogical chemistry)

14-57-6-11718 KRT

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 13 (USSR)

EDITOR: Yashina, V. V.

MAP: Krasnoyarsk State Park "Stolby", to the Scale of 1: 150 000. An Itinerary Map for Tourists (Krasnoyarskiy zapovednik "Stolby". M. 1:150 000. Turistskaya marshrutnaya karta)

PERIODICAL: GUGK MVD SSSR, 1956

ABSTRACT: Bibliographic entry

Card 1/1

YASHINA, V.V.

IVANOVA, L.; KOSTINSKIY, D.; RYABCHIKOV, A.; TOLOKONNIKOVA, A.; YASHINA, V.V., red.

[India, Pakistan, Ceylon, Nepal] Indiia, Pakistan, TSeilon, Nepal. Moskva, Glav.upr.geodezii i kartografii MVD SSSR. Gos. izd-vo geogr.lit-ry, 1956. 21 p. ___ Ukazatel' geograficheskikh nazvanii. 8 p. (MIRA 13:2)
(Asia--Geography, Economic)

RODOPULO, A.K.; YEGOROV, I.A.; YASHINA, V.Ye.

Bouquet substances of sherry. Prikl. biokhim. i mikrobiol. 1 no.1:95-101 Ja-F '65. (MIRA 18:5)

1. Institut biokhimii imeni Bakha AN SSSR.

GORBUNOV, V.N.; NAGIBINA, A.G.; YASHINA, V.S.; ZARKIND, G.T.

Effect of the molecular structure on the heat distortion of hardened divinyl and divinylstyrene polymers (oligomers). Plast.massy no.7:6-9 '64. (MIRA 17:10)

ACC NR: AP6029915 (A) SOURCE CODE: UR/0413/66/000/015/0088/0088

INVENTORS: Gorbunov, V. N.; Yashina, V. Z.; Rubtsova, I. K.

ORG: none

TITLE: Method for obtaining amino-formaldehyde resins. Class 39, No. 184439 [announced by Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 88

TOPIC TAGS: amino plastic, formaldehyde, condensation polymerization, polymerization initiator

ABSTRACT: This Author Certificate presents a method for obtaining amino-formaldehyde resins by condensing urea or melamine with formaldehyde in an acid or neutral medium. To improve the physico-mechanical properties, the condensation is carried out under pressure and in the presence of a peroxy-free-radical type initiator. The condensation may also be carried out in the presence of an unsaturated compound, e.g., methyldimethacryloxyethylphosphinate.

SUB CODE: 11, 07 SUBM DATE: 23Jun65

Card 1/1 UDC: 678.652.'737'21'41

VLASHCHENKO, L.F.; NOVIKOV, V.M.; ZINOV'YEVA, M.M.; SIDOROVA, A.P.; KARDASHOVA, A.A.; KLEYMENOV, I.Ya.; KRASNOPOL'SKIY, N.M. [deceased]; LUKASH, Ye.G.; SAMOFALOV, P.Ye.; YASHINA, Ye.I.; KULIKOV, P.I., dots., retsenzent; MAKAROVA, T.I., kand. tekhn. nauk, retsenzent; MERENBURG, A.N., spets. red.; KOSSOVA, O.N., red.; SOKOLOVA, I.A., tekhn.red.

[Handbook for the technologist of the fishing industry] Spravochnik tekhnologa rybnoi promyshlennosti. Moskva, Pishchepromizdat. Vol.1. 1963. 589 p. (MIRA 17:3)

ZAGORSKAYA, N.G.; YASHINA, Z.I.; SLOBODIN, V.Ya.; LEVINA, F.M.; BELEVICH, A.M.; URVANTSEV, N.N., doktor geol.-mineral. nauk, red.

[Marine Neogene(?)-Quaternary sediments in the lower Yenisey Valley.] Morskie neogen (?)-chetvertichnye otlozheniia nizhnego techeniia reki Eniseia. Moskva, Nedra, 1965. 90 p. (Leningrad. Nauchno-issledovatel'skii institut geologii arktiki. Trudy, no. 144) (MIRA 18:8)

STRELKOV, S.A.; DIBNER, V.D.; ZAGORSKAYA, N.G.; SOKOLOV, V.N.; YEGOROVA, I.S.; POL'KIN, Ya.I.; KIRYUSHINA, M.T.; PUMINOV, A.P.; YASHINA, Z.I.; SAKS, V.N., red.; NIKITINA, V.N., red.izd-va; GUROVA, O.A., tekhn.red.

[Quaternary sediments in the Soviet Arctic] Chetvertichnye otlozheniia Sovetskoi Arktiki. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol.i okhr.nedr, 1959. 231 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol.91). (MIRA 13:5)

(Russia, Northern--Geology).

YASHINSKAS, P. K.

Yashinskas, P. K. - "The Role of X-Ray Therapy in the Treatment of Cervical-Maxillary Actinomycosis." Min Health USSR. Central Inst for the Advanced Training of Physicians. Moscow, 1956 (Dissertation for the Degree of Candidate in Medical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

TSELIBEYEV, B.A.; YASHISH, I.L.; OKUNEV, V.N.

Mental disorders in hematologic diseases. Zhur. nevr. i psikh. 64 no.8:1192-1197 '64. (MIRA 17:12)

1. Moskovskaya gorodskaya klinicheskaya ordena Lenina bol'nitsa im. Botkina (glavnyy vrach - dotsent Yu.G. Antonov), Moskva.

L 32901-66

ACC NR: AP6023832 (N) SOURCE CODE: UR/0399/66/000/003/0079/0083

AUTHOR: Tsolibeyev, B. A.; Yashish, I. L.; Brusilovskaya, M. I.; Fatkullina, Z. I.; Okunev, V. N. 27 B

ORG: Central Scientific Institute of Forensic Psychiatry im. Serbskiy /headed by Docent G. B. Morozov/ (Tsentral'nyy nauchno-issledovatel'skiy institut sudebnoy psikhiatrii); Clinical Order of Lenin Hospital im. S. P. Botkin /headed by Docent Yu. G. Antonov/, Moscow (Klinicheskaya ordena Lenina bol'nitsa)

TITLE: Psychic disturbances in burns 12

SOURCE: Sovetskaya meditsina, no. 3, 1966, 79-83

TOPIC TAGS: injury, psychoneurotic disorder, psychiatry

ABSTRACT: The authors observed four cases of psychoses associated with burns. In three patients, soon after the burns, brief amental-depressive states developed, and in one -- a severe psychic state was observed followed by a depressive-paranoid syndrome. It was found that in all three patients of the first group, 3 days after receiving the burns, when shock symptoms had passed, but intoxication, development of suppurative pus, and insomnia due to pain continued, states of psychomotor excitation developed with disorientation in space and time, and with large numbers of visual and auditory hallucinations and periodic confusion of mental processes. Psychic disturbances were noted

UDC: 616.5-001.17-06:616.89-02:616-001.17

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32961-66

ACC NR: AP6023832

for several days and were accompanied by total amnesia characteristics of amental and severe delirium states. It is characteristic that the psychoses developed not during the shcok period, but in the initial period of shock infection; as is known, traumatic and postoperative psychoses also emerge, usually several days after the injury or operation. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 002

Card 2/2

SPERANSKAYA, A.M.; LEBEDIKOVA, Ye.I.; KLIMENTOVSKAYA, G.I.; YASHISH, L.B.

Role of enteropathogenic intestinal bacilli in the etiology of intestinal diseases in infants. Lab. delo [7] no.4:59-60 Ap '61. (MIRA 14:3)

1. Dorozhnaya sanitarno-epidemiologicheskaya stantsiya Moskovsko-Ryazanskoy zheleznoy dorogi.
(ESCHERICHIA COLI)

[redacted] and increase the heat resistance of the rubber.

KRASIL'NIKOV, N.A.; ZHUKOVA, R.A.; YASHISH, V.B.

Possibility of using antibiotics to protect the outer fibrous sheaths of underground power cables from destruction by micro-organisms. Mikrobiologiia 29 no.3:446-450 My-Je '60. (MIRA 13:7)

1. Institut mikrobiologii AN SSSR.
(ANTIBIOTICS) (ELECTRIC CABLES--MAINTENANCE AND REPAIR)
(BACTERIA, CELLULOSE-DECOMPOSING)

L 25900-66 EWT(d)/EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(l) IJP(c)

ACC NR: AP6008990 JD/WB SOURCE CODE: UR/0121/65/000/011/0039/0039

AUTHOR: Yasinskiy, G. I.

ORG: none

TITLE: High-performance designs of cutting tools and tool materials (Scientific and technical seminar, Moscow, June 1965)

SOURCE: Stanki i instrument, no. 11, 1965, 39

TOPIC TAGS: metallurgic conference, tool steel, cutting tool, metal cutting machine tool, alloy, cobalt steel, vanadium steel, tungsten steel, molybdenum steel

ABSTRACT: A scientific and technical seminar on high-performance designs of cutting tools and tool materials was held at the end of June 1965. The seminar was organized by the Moscow House of Scientific and Technical Propaganda im. F. E. Dzerzhinskiy (Moskovskiy dom nauchno-tekhnicheskoy propagandy), the All-Union Scientific Research Tool Institute (Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut), the TsBTI, and the MGP NTO Mashprom. N. S. Degtyarenko noted the need for increasing the efficiency of cutting tools and for using new grades of tool steel and powdered-metal alloys. G. I. Granovskiy spoke on the cutting properties of modern tool materials. G. A. Kossovich reported on the problem of increasing the quality of high-speed steels. M. A. Sazar reported on the use

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ACC NR: AP6008990

13

of high-performance high-speed steels. B. Z. Levin and O. S. Mal'tsev spoke on new grades of hard alloys. M. I. Yulikov told of the development of high-performance designs of cutting tools that are being manufactured. A. V. Akimov demonstrated new types of hard-alloy cutting tools. I. L. Fadyushin reported on high-performance designs of sharpening units with hard-alloy plates. D. I. Semenchenko reported on cutting tools with non-resharpenable hard-alloy plates. Yu. L. Frumin reported on methods of reducing the replacement and adjustment time of tools under conditions of automated production. K. N. Kirillov reported on problems of high-performance cutting tools for machining rust-proof and high-temperature materials. L. S. Kerbikov reported on advanced designs of hard-alloy cutting tools. A. N. Shevchenko reported on new designs of gear-cutting tools.

SUB CODE: 11/ SUBM DATE: none

Card 2/2 BLG

Chem Abs
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Organic Chem

Chem
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3

Mechanism of reaction of chlorosulfonic acid with some aromatic compounds. B. Yu. Yasnitskii (Lab. Chem. Technol., Chem.-Pharm. Inst., Kharkov). *Zhur. Obshchei Khim.* 23, 107-16(1953); cf. *Zhur. Prikład. Khim.* 23, 893 (1950).—Considerations of thermodynamic values and exptl. data indicate that the fundamental reactions in the interaction of $ClSO_3H$ with aromatic substances are as follows. The 1st rapid step in most cases is the formation of $ArSO_3H$ and only small amts. of $ArSO_2Cl$. Sulfonation with H_2SO_4 with high concn. of $ClSO_3H$ has no practical value. In the 2nd slow step there occurs the change of $ArSO_3H$ to $ArSO_2Cl$ by the excess $ClSO_3H$, with liberation of H_2SO_4. The process is reversible at low temp. and irreversible at elevated temp. owing to thermal cleavage of liberated $ClSO_3H$ to HCl and SO_3, these being removed from the reaction zone under usual conditions. H_2SO_4 has a significant role in chlorosulfonations by lowering the concn. of $ClSO_3H$ and reacting with $ArSO_2Cl$ transforming the latter to $ArSO_3H$. In the process $ClSO_3H + H_2O \rightarrow H_2SO_4 + HCl$, ΔS is 10.46 e.u., ΔF −20,430 cal.; hence sulfonations with $ClSO_3H$ should be more rapid and effective than those with H_2SO_4, as confirmed by examn. of the literature. In reaction of $ClSO_3H$ with AcNHPh at 25° and 40° it was shown that within 15 min. almost 100% organic S is obtained (graphical presentation is made) and this remains constant through the duration of reaction; organic Cl rises rapidly for 1 hr. then remains nearly constant (slight decline), while the yield of $ArSO_3OH$ is very high at first, declines rapidly over 45 min., then very slowly rises; organic Cl (SO_2Cl deriv.) gradually rises, then slowly drops, the curve being a mirror image of the above curve for the free acid. The yield of $AcNHC_6H_4SO_2Cl$ rises sharply to 80% when 100% $ClSO_3H$ is used, in comparison with mixts. in which gradually increasing amts. of H_2SO_4 are present (40% at 60% H_2SO_4) at 60° under essentially equil. conditions. In a mixt. of 65% $ClSO_3H$-35% H_2SO_4 at 25° the molar ratio of $ArSO_3H$ to $ArSO_2Cl$ is 0.3/0.7 regardless of whether the starting material was $ArSO_3H$ and $ClSO_3H$ or $ArSO_2Cl$ and H_2SO_4. The expected more rapid reaction of carbanilide with $ClSO_3H$ than with H_2SO_4 is experimentally confirmed. G. M. Kosolapoff

7-13-54

YASHKAROV, S. VYSOTSKIY, P. YUROV, P.

Zavodskiy Opyt Polucheniya Kirpicha Iz Zoly Kashpirskogo Slantsa, Goryuchiye Slantsy 1933, No 5, 37

SO:

Goryuchiye Slantsy # 1934-35, TN .871
G .74

YASHKE, Ye.V.

PEREL'MAN, V.I.; NEKRASOV, B.V., redaktor; ABRAMOV, V.A., redaktor; YASHKE, Ye.V., redaktor; LUR'E, M.S., tekhnicheskiy redaktor.

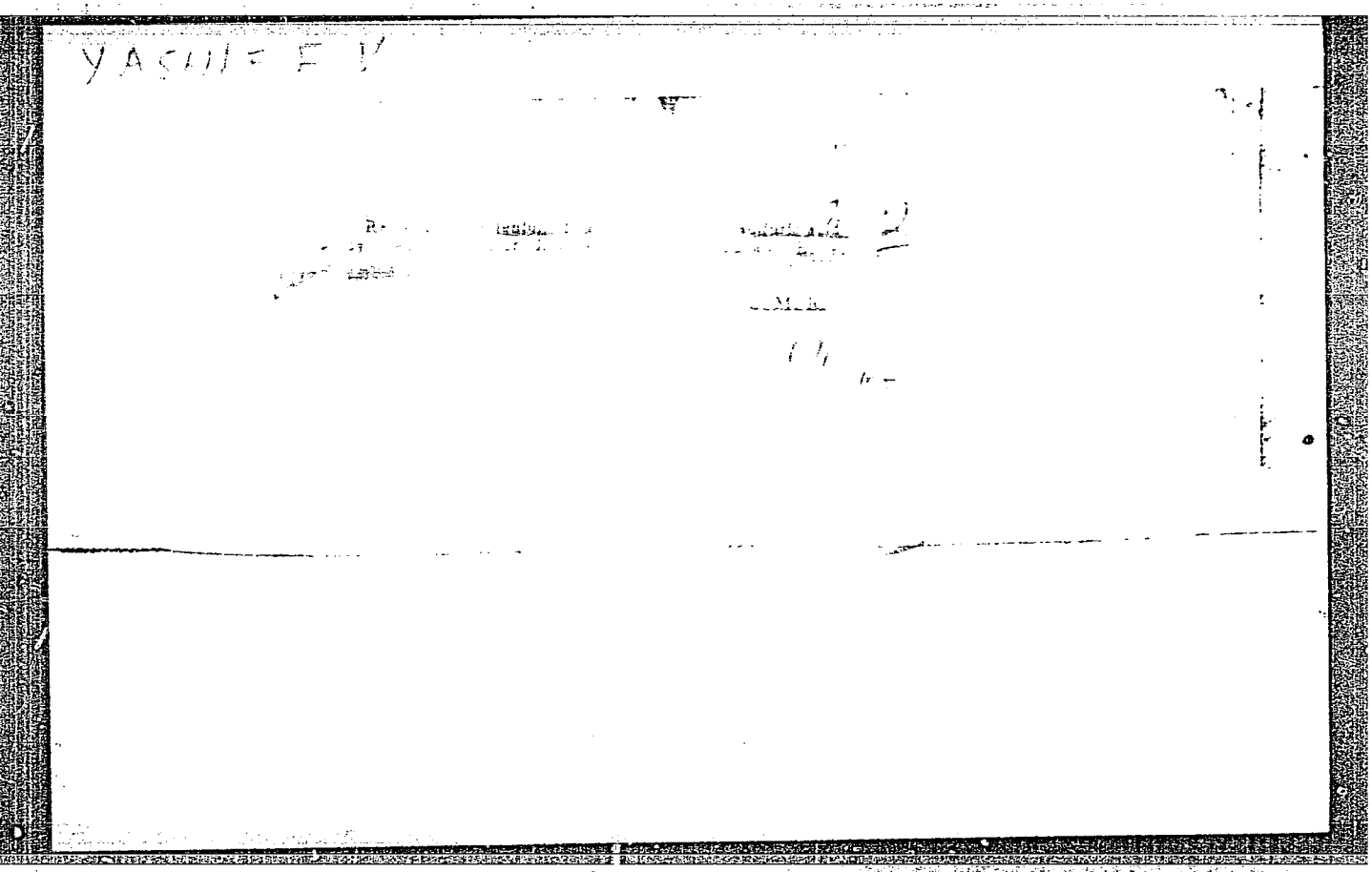
[Brief chemistry manual] Kratkii spravochnik khimika. Pod obshchei red. B.V.Nekrasova. Izd. 3-e, ispr. i dop. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1954. 557 p. (MLRA 7:12)

1. Chlen-korrespondent AN SSSR (for Nekrasov).
(Chemistry--Handbooks, manuals, etc.)

PEREL'MAN, V.I.; NEKRASOV, B.V., redaktor; ABRAMOV, V.A., redaktor; YASHKE, Ye.V., redaktor; LUR'YE, M.S., tekhnicheskiy redaktor

[Concise handbook of chemistry] Kratkii spravochnik khimika. Pod obshchei red. B.V.Nekrasova. Izd. 5-oe, stereotip. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1956. 559 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Nekrasov)
(Chemistry--Handbooks, manuals, etc.)



AMELIN, A.G., YASHKE, Ye.V.

Reduction of selenium dioxide from sulphuric acid solutions by means of sulphurous anhydride. Dokl. AN SSSR 108 no.5:849-852 Je '56. (MLRA 9:10)

1. Predstavleno akademikom S.I. Vol'fkovichem.
(Selenium oxides)

YASHKE, Ye. V., Cand Tech Sci -- (diss) "Purification of Roasting Gas with Concentrated Sulfuric Acid at High Temperatures in Apparatus of the Bubbling Type." Mos, 1957. 17 pp with chiefly diagrams (Min of Chemical Industry USSR, Sci Inst for Fertilizers and Insect Fungicides im Prof. Ya. V. Samoylov), 110 copies (KL, 47-57, 89)

45

AMELIN, A.G.; YASHKE, Ye.V.; KURGIN, Yu.S.

Temperature of a drop-let in supersaturated vapors. Koll.zhur. 23 no.6:652-657 N-D '61. (MIRA 14:12)

1. Nauchno-issledovatel'skiy institut po udobreniyam i insektofungisidam imeni prof. Ya.V.Samoylova.
(Vapors) (Drops)

YASHKE, Ye.V.

Absorption of arsenous and selenous anhydrides in roast gas scrubbing by sulfuric acid. Khim.prom. no.10:740-742 O '62. (MIRA 15:12)

(Arsenic oxide) (Selenium oxide)
(Sulfuric acid) (Gases—Purification)

KUPERMAN, M.Ye.; STOYANOVA, I.G.; YASHKE, Ye.V.; AMELIN, A.G.

Electron microscope determination of the size of sulfuric acid fog drops. Dokl. AN SSSR 155 no.6:1427-1428 Ap '64. (MIRA 17:4)

1. Nauchno-issledovatel'skiy institut po udobreniyam i insektofungitsidam im. Ya.V.Samoylova. Predstavleno akademikom S.I.Vol'fkovichem.

YASHKE, Ya.V.; AMELIN, A.G.; PETROVSKIY, V.A.; OSMUL'KEVICH, V.A.

Glass fiber filters for the removal of sulfuric acid fog. Khim. prom. 41 no.3:196-200 Mr '65. (MIRA 18:7)

BELOBROV, Andrey Pavlovich. Prinimali uchastiye: BASKIN, A.S., inzh.-gidrograf; BOGDANOV, I.A., inzh.-gidrograf, dots.; VIL'NER, B.A., inzh.-gidrograf; VOLKOV, P.D., inzh.-gidrograf; GORSHKOV, N.M., inzh.-gidrograf; CHUROV, Ye.P., inzh.-gidrograf; YASHKEVICH, Ye.V., inzh.-gidrograf; STUPAKOVA, L.A., red.

[Marine hydrography] Gidrografiia moria. Moskva, Transport, 1964. 514 p. (MIRA 17:9)

YASHKICHEV, V.I.; LAZAREV, V.B.

Measurement of the surface tension of electrolytic copper by the method of maximum gas bubble pressure. Izv.AN SSSR. Ser.khim. no.1:170-172 Ja '64. (MIRA 17:4)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova AN SSSR.

5 (4)

AUTHORS: Pugachevich, P. P., Yashkichev, V. I. SOV/62-59-5-7/40

TITLE: Temperature Dependence of the Surface Tension of Copper (Temperaturnaya savisimost' poverkhnostnogo natyazheniya medi)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, pp 806 - 810 (USSR)

ABSTRACT: According to the authors there exist about 40 papers only on surface tension of metals and alloys; and only ten of them are devoted to surface tension at temperatures higher than 1000°. A short enumeration of the papers and an information about the investigation methods used are given. The two Soviet authors Klyachko (Ref 5) and Kunin (Ref 11) are among the authors mentioned (Refs 1-11). The results obtained by the various authors are contradictory (Fig 1). In this work the Sugden method (Ref 14) is used in the determination of the surface tension σ by which the maximum pressure in the bubbles is measured. In principle, the method is based on the use of two capillaries of various thickness so that the hydrostatic pressure being formed with dipping the capillary into the melt need not be considered in the calculation; also, the density of the melt need not be determined precisely. Sugden did not carry out his investiga-

Card 1/3

tions at temperatures higher than 1000°. The apparatus used in the investigation is shown in figure 2 and described in detail. The pressure in the gas bubbles was determined by means of a bellow-sealed manometer of V. A. Sokolov construction, the temperature of molten copper by means of an optical pyrometer, and the surface tension according to the formula

$$\sigma = \frac{1}{2} \frac{p_1 - p_2}{\frac{1}{x_1} - \frac{1}{x_2}}$$

The values of σ at various temperatures are summarized in a table. p_1 and p_2 are the maximum pressures in the gas bubbles which are formed at the capillaries; x_1 and x_2 are the diameters of the two capillaries. The investigations were carried out in a temperature range between 1100 and 1600°. The maximum value of the surface tension of the copper melt was observed at 1300° (Fig 2). The polythermal maximum of the surface tension mentioned in publications also in connection with other metals is explained by 1) the presence of surface active impurities on the melt surface and 2) the property of metals in

 liquid phase to remain in a pseudocrystalline state; with tem-

perature increase the liquid structure approaches the state of tightest structure, the surface tension increases. With further temperature increase the liquid becomes homogeneous and the surface tension changes "normally", i.e. it decreases with rising temperature. With further temperature increase the liquid becomes homogeneous, and the surface tension changes in the "normal" manner, i.e. it drops with rising temperature. There are 3 figures, 1 table, and 22 references, 7 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova (Institute of General and Inorganic Chemistry im. N.S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: July 24, 1957

24.5000

77092
SOV/62-59-12-36/43

AUTHORS: Semenchenko, V. K., Yashkichev, V. I.

TITLE: Brief Communications. Concerning the Evaluation of Generalized Moments by Quantum-Mechanical Methods

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2246-2248 (USSR)

ABSTRACT: The authors used the Schrödinger equation, which can be approximately solved by Hartree-Fock method [Ref. 12], for calculation of ionic potentials (for which the distance from the nucleus was equal to the corrected [Ref. 19] Goldschmidt ionic radii). These values, which were called quantum-mechanical generalized moments, are compared with the values of generalized moments calculated by application of Coulomb's Law.

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The values of generalized moments, coulombic and quantum-mechanical , arranged in decreasing order of the latter

Table 1

Ions	Be^{++}	Mg^{++}	Hg^{++}	Ca^{++}	Li^{+}	Cu^{+}	Al^{+}	K^{+}	Rb^{+}	Cs^{+}
Generalized quantum-mechanical moment in atomic units	3,150	1,471	1,078	1,064	0,789	0,709	0,434	0,432	0,368	0,370
Generalized coulombic moment in atomic units	3,106	1,427	0,943	1,015	0,777	0,540	0,388	0,397	0,355	0,320

The deviations of the values of generalized moments are relatively small for ions with inert-gas configurations (Li^{+}, K^{+}, Rb^{+}, Cs^{+}, Be^{+}, Mg^{+}, Ca^{++}), although the quantum-mechanical generalized moments are always larger than coulombic moments. The deviation is greater for ions with incomplete outer energy levels (Cu^{+}, Al^{+}, Hg^{++}). In solutions where

Brief Communications. Concerning the Evaluation of Generalized Moments by Quantum-Mechanical Methods

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the average interionic distances are greater, the ionic fields can be satisfactorily described by Coulomb's Law. There is 1 table; 1 figure; and 19 references, 12 Soviet, 5 U.K., 2 German. The 5 U.K. references are: Hargreaves, J., Proc. Cambridge Philos. Soc., 25, 75 (1928); Hartree, D. R., Proc. Roy. Soc., A143, 506 (1933); Hartree, D. R., Proc. Roy. Soc., A151, 96 (1935); Hartree, D. R., Proc. Roy. Soc., A149, 210 (1935); Hartree, D. R., Hartree, W., A164, 167 (1938).

ASSOCIATION: N. S. Kurnakov Institute of General and Inorganic Chemistry of the Academy of Sciences of the USSR (Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova Akademii nauk SSSR)

SUBMITTED: May 6, 1959

Card 3/3

YASHKICHEV, V.I.; VINOGRADOV, Ye.Ye.

Relation between the distribution coefficient and the heat of extraction. Radiokhimiia 5 no.1:136-137 '63. (MIRA 16:2)

(Activity coefficients)
(Heat of extraction)

SAMOYLOV, O.Ya.; GOLOVATENKO, R.T.; YASHKICHEV, V.I.

Influence of covalence of the interaction of a salting out cation with water molecules on the effectiveness of salting out. Radiokhimiia 5 no.4:499-504 '63. (MIRA 16:10)

(Salting out) (Cations) (Water)

YASHKICHEV, V.I.

Surface tension of aqueous solutions of salts and the effect of ions on the structure of water. Zhur.strukt.khim. 4 no.6: 837-843 N-D '63. (MIRA 17:4)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR.

MATYASH, I.V.; TORYANIK, A.I.; YASHKICHEV, V.I.

Mobility of water molecules in aqueous solutions of NaCl, KCl, and KI. Zhur. strukt. khim. 5 no.5:777-778 S-O '64 (MIRA 18:1)

1. Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR i Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

BUSLAYEVA, M.N.; SAMOYLOV, O.Ya.; YASHKICHEV, V.I.

Covalence of cation reaction with water molecules and the heats of solution of Rb, Tl, Mg, Co and Ni nitrates. Radiokhimiia 7 no.1:113-115 '65. (MIRA 18:6)

YASHKIN, A. Ya.

YASHKIN, A. Ya. -- "Heterogeneity in a Rectangular Wave Guide." Su 12 May 52, Moscow State Pedagogical Inst imeni V. I. Lenin. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

YASHKIN, A. YA.

USSR/Physics - Lecture Experiments Sep 52

"Some Lecture Demonstrations in a Course of Experimental Physics," A. Ya. Volkova, N. N. Malov, and A. Ya. Yashkin

"Uspekhi Fiz Nauk" Vol 48, No 1, pp 123-128

Describe experiments with a free falling pendulum, modeling of ionosphere, tube generator of undampened oscillations, interference of light by thin film.

PA 236T79

YASHKIN, A.Ya.

Metal inhomogeneities in rectangular wave guides. Uch.zap.MGPI 88: 3-16 '54. (MLRA 10:2)

(Wave guides)

YASHKIN, A.YA.

109-8-5/17

AUTHOR: Yashkin, A.Ya.

TITLE: Calculation of the lowest mode critical wave in non-symmetrical π-, T- and some other types of wave guides. (Raschet kriticheskoy volny nizshego tipa dlya nesimmetrichnykh π-, T- i nekotorykh volnovodov drugoy formy)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, Nr 8, pp. 989-1000 (USSR)

ABSTRACT: Symmetrical π-type wave guides, for instance those discussed by L.N. Deryugin (Ref.1) find application in ultra high frequency techniques, since they have a number of valuable characteristics. Thus, when designing such wave guides it is necessary to determine the required tolerances. This can be done by analysing a non-symmetrical π-type wave guide. The wave guide considered in the present paper has a cross section as shown in Fig.1. Its characteristic equations for the magnetic fields in the regions 1, 2 and 3 (see Fig.1) are given by Equations 5 (p.991) in which the coefficients C_{in} and α are the unknowns to be determined. If the Equations 5 have to fulfil the conditions expressed by Equations (6) and (7), then they can be represented as shown by the Eqs.8, p.992.

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Calculation of the lowest mode critical wave in non-symmetrical Π-, T- and some other types of wave guides.

On the basis of the above equations it is possible to evaluate two expressions (Equations 18 and 20) which define the smallest wave number, k, of the wave guide as a function of its dimensions and the unknown coefficient α. For a symmetrical wave guide ($a_1 = a_3 = a_0$), Equation 18 leads to a simplified expression as given by Equation 21 (p.995). Similarly, it can be shown that for a Γ-type wave guide ($a_1 = 0$) Equation 18 takes the form of that given by Equation 22. Similar analysis is given for a T-type wave guide (see Fig.2) and it is shown that the parameters of the system can be evaluated from Equations 23 (p.996). Two further wave guides are considered, that shown in Fig.3 (the so-called Ш-type wave guide) and a wave guide with two symmetrical grooves (see Fig.4). The characteristic equations for the above wave guides are given by Equations 29 and 30 respectively. The above analytical formulae were used to calculate the critical wave numbers for a number of wave guides (see Figs.5 and 6) and to determine the critical wave length for a Ш-type

Calculation of the lowest mode critical wave in non-symmetrical π-, T- and some other types of wave guides.

wave guide (see Fig.7). The latter was compared with some experimental results taken from the work of B.L.Pichugin (Ref.3). The above results show that the critical wave of the above wave guides can be either smaller or greater than those in a rectangular wave guide. It appears to be possible to adjust the grooves or the juttings in the wave guides in such a manner as to obtain a wave length equal to that of a similar rectangular wave guide. Acknowledgements are made to Prof. N.N. Malov for numerous and useful discussions on all the problems concerning this work. There are 7 figures, 1 table and 5 references, all of which are Slavic.

SUBMITTED: December 24, 1956.

AVAILABLE: Library of Congress.

ALEKSANDROV, N.V.; MALOV, N.N., prof.; POLYANINA, G.D.; YASHKIN, A.Ya.; MIKHALKEVICH, T.V., red.; TSVETKOVA, V.S., tekhn.red.; POMOMAREVA, A.A., tekhn.red.

[Practical work in electric and radio engineering; textbook for students of pedagogical institutes] Praktikum po elektrotekhnike i radiotekhnike; posobie dlia studentov pedagogicheskikh institutov. Pod red. N.N. Malova. Moskva, Gos. uchebno-pedagog. izd-vo M-va pros. RSFSR, 1958. 165 p. (MIRA 12:1)
(Electric engineering) (Radio)

SOV-109-3-6-17/27

AUTHOR: Yashkin, A. Ya.

TITLE: A New Method for Approximate Calculation of the Waveguides Having a Complex-Form Cross-Section (Novyy metod priblizhennogo rascheta volnovodov so slozhnoy formoy poperechnogo secheniya)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 6 pp 831-833 (USSR)

ABSTRACT: The problem of finding the lowest critical TE-wave is equivalent to solving the 2-dimensional wave equation with respect to the magnetic field component H_z under the assumption that the normal derivative of the field is 0 over the whole transverse cross-section (see Eqs.(1) and (2)). The proposed method consists of approximating the complex cross-section of a waveguide by means of a number of small steps (see Fig.1). If the steps are sufficiently small it can be assumed that the critical waves of the actual complex waveguide and those of the approximate step-like waveguide will be the same. It is possible to derive for the

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A New Method for Approximate Calculation of the Waveguides Having a Complex-Form Cross-Section

approximating system a number of equations, such as expressed by:

$$H_i = C_{i0} \cos k (x - \alpha_i) + \sum_{n=1}^{\infty} C_{in} \cos r_{in} y \operatorname{ch} r'_{in}(x - \alpha_i) , \quad (3)$$

where C_{in} and α_i are the unknown constants; $r_{in} = \frac{n\pi}{b_i}$, $n = 0, 1, 2, \ldots$, $r'_{in} = \sqrt{r_{in}^2 - k^2}$ and it is assumed that $\frac{\pi}{b_i} > 1$ and $k < \frac{\pi}{b_i}$. The continuity conditions at the boundaries of the various steps (see Fig.1) can be expressed by Eqs.(4) and (5) where the function ψ can be found from the integral expressed by Eq.(6). By solving Eq.(6), the unknown quantities k, α_2 , α_3 , α_4 ..... can be found from the final equations, (8) and (9). These equations were employed to evaluate the critical waves in a waveguide having

A New Method for Approximate Calculation of the Waveguides Having a Complex-Form Cross-Section

a trapezoidal cross-section. The results are plotted in Fig.2, where the critical wave is given as a function of the side angle of the trapezoid. There are 2 figures and 5 Soviet references.

SUBMITTED: July 4, 1957.

Card 3/3

1. Waveguides - Mathematical analysis 2. Approximate computation - Applications

SOV/142-58-4-18/30

AUTHOR: Yashkin, A.Ya.

TITLE: Calculation of the Lower Frequency Waves in Right-Angled Wave Guides with a Layer Filling (Raschet nizshikh voln v pryamougol'nom volnovode so sloistym zapolneniyem)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy- Radiotekhnika, 1958, Nr 4, pp 503-505 (USSR)

ABSTRACT: The paper recommends a method of calculating for wave guides with any number of parallel dielectric layers of varying parameters. This method can be used when investigating the electric qualities of liquid dielectrics, which are placed in a wave guide in a right-angled dielectric container. The paper also deals with the computation and characteristics of stratified wave guides in general and of a wave guide with alternating dielectric layers. There are 2 graphs and 5 Soviet references.

Card 1/2

SOV/142-58-4-18/30

Calculation of the Lower Frequency Waves in Right-Angled Wave Guides with a Layer Filling

ASSOCIATION: Kafedra fiziki Moskovskogo stankoinstrumental'nogo instituta imeni I.V.Stalina (Chair of Physics, Moscow Machine Tool Institute imeni I.V.Stalin)

SUBMITTED: December 18, 1957 (initially) and March 10, 1958 (after revision)

Card 2/2

108-13-3-2/13

AUTHOR: Yashkin, A. Ya.

TITLE: Computation of a Critical Wave of Lowest Order in Rectangular Wave Guides With Rectangular Longitudinal Slots and Projections (Raschët kriticheskoy volny nizshego tipa dlya pryamougol'nykh volnovodov s prodol'nymi pryamougol'nymi kanavkami i vystupami)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, Nr 3, pp. 8 - 14 (USSR)

ABSTRACT: The critical wave of complicated wave guides is here computed according to the method of joining single solutions for rectangular ranges into which the entire wave guide cross section is divided. Here it is assumed that the wave guide is filled with an ideal dielectric ($\varepsilon = \mu = 1$) and has infinitely conducting walls. The propagating wave is sinusoidal and has an axial component $H_z = H(x,y)$, which satisfies the wave equation

$$\frac{\partial^2 H}{\partial x^2} + \frac{\partial^2 H}{\partial y^2} + k^2 H = 0$$

with the boundary condition $\frac{\partial H}{\partial n} = 0$ for the entire longi-

Card 1/2

Computation of a Critical Wave of Lowest Order in Rectangular Wave Guides With Rectangular Slots and Projections

dinal cross section. The system of equations connecting the critical wave with the dimensions of the wave guide cross section is derived.
This system (14) has to be looked upon as characteristic: it offers the possibility to determine the critical wave of the wave guide according to the cross-sectional dimensions. In the computations of wave guides with a varying number of longitudinal projections and slots characteristic systems consisting of equations of the (12) and (13)-type can be obtained. When the cross section is symmetrical a combination of these equations with the equations of the (16)-type or (17)-type is obtained. - Enclosed is a computation of the lowest critical wave of a wave guide with symmetric projections and one for a wave guide with two symmetric longitudinal slots. Some computation data are compared with those of the experiments. There are 4 figures and 4 references, 4 of which are Soviet.

SUBMITTED: September 26, 1956 (initially) and November 22, 1957 (after revision)

AUTHOR: Yashkin, A. Ya. SOV/108-13-10-2/13

TITLE: On a Method of Approximation Calculation of Wave Guides With a Triangular and Trapezoidal Cross Section (Ob odnom metode priblizhennogo rascheta volnovodov treugol'nogo i trapetsevidnogo secheniya)

PERIODICAL: Radiotekhnika, 1958, Vol 13, Nr 10, pp 3 - 8 (USSR)

ABSTRACT: The method suggested in this paper leads to a simple system of transcendent equations. It can be used with wave guides with a trapezoidal and a triangular cross section as well as with wave guides with an arbitrary complicated cross section. The basic conception of this method is essentially that the cross section of the trapezoidal and triangular wave guides is by small deformations transformed into a multi-step cross section. As the cross section deformations are small and have alternating signs, their overall effect is due to be small. Hence it can be assumed that with a certain approximation the critical wave of the trapezoidal (triangular) wave guide is the same than that of a multistep wave guide. Thus

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the problem is reduced to the finding of the lowest order cutoff wave of the wave guide with a multi-step cross section. In this paper diagrams are presented which give the data for the calculation of the wave guides with the following cross section types: Right-angled triangle, equilateral triangle, right-angled and equilateral trapezoid. Several of the calculated values are compared with experimental experience. If a complicated cross section of a wave guide is divided only into a small number of rectangular domains it is desirable to achieve a high degree of compensation of the individual deformations of the cross section. This can be done successfully in cases where the field configuration over the waveguide cross section is known. If, however, a complicated cross section is divided into a great number of rectangular domains a knowledge of the field configuration in the wave guide is not required. The more rectangular domains of a multi-step shape are adopted the more accurate will be the results of the calculation. The tables compiled in the course of this work demonstrate that the computed values agree with experimental experience

even if the number of domains is small. There are 5 figures, 2 tables, and 4 references, 3 of which are Soviet.

SUBMITTED: January 17, 1957

SOV/58-59-8-18581

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 222 (USSR)

AUTHOR: Yashkin, A.Ya.

TITLE: The Propagation of Symmetrical Electromagnetic Waves Through a Hollow Dielectric Tube

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1958, Vol 138, pp 143-154

ABSTRACT: The propagation of symmetrical waves through a hollow dielectric tube is investigated. The problem is solved for longitudinal components of electric and magnetic fields, the remaining components being expressed in terms of these. It is demonstrated that only one type of electric wave can exist in a dielectric tube, despite the three forms of solution that can be given for a dielectric (for the internal region of the tube the solution is given as a Bessel function, for the outside of the tube it is given as a Hankel function of imaginary argument). The calculations demonstrate that the critical wavelength diminishes infinitely with the diminution in the gage of the walls. The electromagnetic field is concentrated by the walls of the tube, and the shorter the length of the wave which is being propagated, the higher

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The Propagation of Symmetrical Electromagnetic Waves Through a Hollow Dielectric Tube

this concentration. The propagation of waves through a monoaxial system of dielectric tubes is investigated. The numerical calculations show that in this case the critical wavelength diminishes, albeit not to a great extent.

I.F. Dobrovol'skiy

Card 2/2

SOV/58-59-8-18573

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 221 (USSR)

AUTHOR: Yashkin, A. Ya.

TITLE: Waveguides With Cross-Sections in the Form of a Parallelogram or Other Complex Shape

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1958, Vol 138, pp 155-163

ABSTRACT: Critical wavelengths of the lower type are computed for waveguides having cross-sections in the form of a parallelogram, trapezium, or triangle. The waveguide cross-sections are transformed by means of small deformations into cross-sections of a multistep form, which can be divided into rectangular sections. The general solution is sought by the method of joining together the solutions for the rectangular sections. The accompanying graphs show the dependence of the critical wavelength in waveguides having a complex cross-section on the angle at which the walls of the waveguides under consideration deviate from the walls of a rectangular waveguide. The experimental data are in good agreement with those computed theoretically.

I.F. Dobrovol'skiy

Card 1/1

YASHKIN, A.Ya.

Sector waveguides with longitudinal grooves or flanges. Uch. zap.MGZPI no.3:274-278 '59. (MIRA 13:5)
(Wave guides)

S/058/60/000/004/014/016
A003/A001

Translation from: Referativnyy zhurnal. Fizika, 1960, No. 4, p. 265, # 9444

AUTHOR: Yashkin, A.Ya.

TITLE: Electromagnetic Waves in m-Layer Waveguides

PERIODICAL: Uch. zap. Mosk. gos. zaochn. ped. in-t. Ser. fiz.-matem., 1959, No. 3, pp. 279-285

TEXT: For the investigation of m-layer waveguides the method was applied of joining the solutions of the wave equation, which were obtained for each layer separately. The analysis of the obtained system of equations shows that waves of the H type, the eigenvalues of which connected with the height of the waveguide differ from zero, are impossible in laminated waveguides. The transcendental equations obtained for finding the propagation constants and critical wavelengths were verified by known particular cases. An example was considered, in which the waveguide is partitioned by thin dielectric plates. I.F. Dobrovol'skiy

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

YASHKIN, A. Ya.

Calculation of an endovibrator with a complex form. Izv. vys. ucheb. zav.; radiotekh. 2 no.6:738-741 N-D '59.
(MIRA 13:6)

1. Rekomendovano kafedroy fiziki Moskovskogo stankostroitel'nogo instituta imeni I. V. Stalina.
(Resonators) (Wave guides)

9,1300

S/142/60/003/002/021/022
E192/E382

AUTHOR: Yashkin, A.Ya.

TITLE: Calculation of Multi-layer Waveguides Having a Ridge-like Transverse Cross-section

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1960, Vol. 3, No. 2, pp 292 - 295

TEXT: The transverse cross-section of the waveguide considered is illustrated in Fig. 1. The system is filled with air and contains two dielectric layers. The equivalent circuit of the system is also shown in Fig. 1, where Y_i^o the wave impedances of denote the corresponding sections of the line, Y_j represent the equivalent reactances. The wave numbers k_1 and k_2 of the system can be determined from the resonance conditions of the equivalent circuit. It is shown that the characteristic system of equations for this waveguide consists of two equations of the type defined by Eq. (1), one equation of the type defined by Eq. (2) and four equations of the type given by Eq. (3). The resulting system is in the form of the set of seven equations

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S/142/60/003/002/021/022
E192/E382

Calculation of Multi-layer Waveguides Having a Ridge-like Transverse Cross-section

shown on p. 294. In the same way, it is possible to construct a system for any ridge-like waveguides. The use of this method of calculation is illustrated by analysing the waveguide shown in Fig. 2. The characteristic system for this case is represented by the second set of equations on p. 294. There are 4 figures and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Kafedra fiziki Moskovskogo stankoinstrumental'nogo instituta im. I.V. Stalina
(Chair of Physics of Moscow Lathe and Instrument Institute imeni I.V. Stalin)

SUBMITTED: September 11, 1959

Card 2/2

9.1300

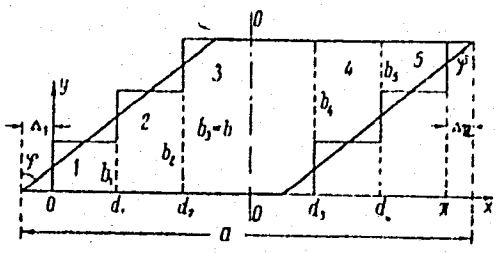
77177
SOV/108-15-1-3/13

AUTHOR: Yashkin, A. Ya.

TITLE: Waveguides of a Parallelogram Cross Section

PERIODICAL: Radiotekhnika, 1960, Vol 15, Nr 1, pp 26-29 (USSR)

ABSTRACT: The paper suggests a method for calculation of the lower-range critical H waves in any waveguide of a parallelogram cross section. The method is based on the transformation of the original cross section into a stepped-up cross section, as shown on Fig. 1.



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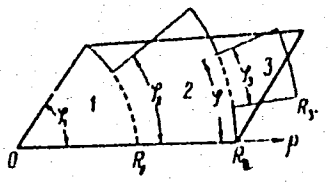
The waveguide of a parallelogram cross section is considered as a deformed rectangular waveguide with sides, a, b. The deformation is characterized by the factor $\eta = \lambda_{co} / \lambda_c$ where λ_{co} and λ_c are the critical wave lengths of the original rectangular waveguide and of the deformed waveguide, respectively. η is the same for waveguides of similar cross sections and may be determined in a scale convenient for calculations. A suggested scale is given by expressions (2):

$$\frac{b}{a} < 1 \text{ then } \lambda_{co} = 2a);\ a - \Delta_1 - \Delta_2 = \pi;\ \varphi < \varphi_0. \qquad (2)$$

where φ_0 is defined as $\tan \varphi_0 = a/2b$. The critical wave λ_c of the stepped-up waveguide may be determined by combining the solutions for each elementary rectangular section 1,2..,5 (see Fig. 1), as shown in a previous publication of the author. Two expressions

are given defining the critical waves. They are combinations of solutions for sections 1, 2, 3 and for sections 3, 4, 5, respectively. Calculations of η were made under an assumption of equal-step dimensions, i.e. $b_1 = b_5$; $b_2 = 2b_1$; $b_3 = 3b_1$ (see Fig. 1). The relationship between η and φ_0 for various values of b/a is represented graphically. Compared with results obtained experimentally with a 10 cm wave, a good agreement was found, even though the number of steps was small. A segmental method of cross-section transformation is shown on Fig. 4.



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In this case cylindrical coordinates instead of Cartesian should be used. The expression characterizing the critical wave is based on the general solution of the Helmholtz equation when using cylindrical coordinates. This expression involves Bessel and Neumann functions of the order $p_{in} = \frac{n\pi}{\varphi_c}$, where n = 0,1..., and i is the number of segments. An expression is given for i = 1 only. For the cross section shown on Fig. 4 (i = 3) a system of 2 equations is necessary. Results obtained by the method of segments coincided with those obtained by the method of rectangular sections. There are 4 figures; and 8 references, 7 Soviet, 1 Italian.

SUBMITTED: April 16, 1958

Card 4/4

89552
S/044/60/000/008/024/035
C111/C222

9,1300
16.7600

AUTHOR: Yashkin, A.Ya.

TITLE: Sector wave guides with longitudinal grooves or salients

PERIODICAL: Referativnyy zhurnal. Matematika, no.8, 1960, 123, abstract no. 9027. Uch. zap. Mosk. gos. zaochn. ped. in-t. Ser. fiz.-matem., 1959, no.3, 274-278

TEXT: The author considers a wave guide the cross section of which is a sector with a salient, i.e. a figure bounded in cylindric coordinates by the lines $\varphi = 0$, $0 < \rho < R_2$; $\rho = R_2$, $0 < \varphi < \varphi_2$; $\varphi = \varphi_2$, $R_1 < \rho < R_2$; $\rho = R_1$, $\varphi_2 < \varphi < \varphi_1$; $\varphi = \varphi_1$, $0 < \rho < R_1$. The author seeks the critical frequency of a wave of lowest type, i.e. the least eigenvalue of the Helmholz equation with boundary conditions of second kind. The fundamental region decomposes into the regions $\rho < R_1$ and $R_1 < \rho < R_2$; there the solutions are written as sums of products of cylindrical and trigonometric functions. The condition of continuity of the solution and its derivative on the line $\rho = R_1$, $\varphi < \varphi_2$ gives a system of linear equations for the coefficients of these developments. The author introduces a new

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Sector wave guides with....

function $F(\varphi)$ which is equal to the derivative of the solution on the line $\rho = R_1$, $\varphi < \varphi_2$. From the system of linear equations for the coefficients an integral equation is obtained for $F(\varphi)$. By solving this integral equation according to the method of Galerkin (under restriction to the first approximation) the author obtains the sought characteristic equation.

[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

Card 2/2

26805
S/142/61/004/002/007/010
E192/E382

9,1300

AUTHOR: Yashkin, A.Ya.

TITLE: Longitudinal Waves in Rectilinear Waveguides of Step-like Cross-section

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1961, Vol. 4, No. 2, pp. 209 - 212

TEXT: It is known that in rectilinear waveguides it is possible to observe longitudinal waves of the type LM and LE apart from transverse waves (Ref. 1 - Waveguides. Gostekhizdat, 1946). These waves are also possible in steplike waveguides. The article is concerned with the propagation characteristics of such waves. First, longitudinal magnetic waves of the LM-type are considered. It is assumed that the y component of the electric-field vector is finite so that the field components can be expressed in terms of a potential function $\Pi_E = \Pi$:

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Longitudinal Waves ....

$$E_y = \left[\frac{\partial^2}{\partial y^2} + \gamma_0^2 \varepsilon\mu\right] \Pi; \quad E_x = \frac{\partial^2 \Pi}{\partial x \partial y}; \quad E_z = \frac{\partial^2 \Pi}{\partial y \partial z};$$
$$H_x = j\gamma_0^2 \frac{\partial \Pi}{\partial z}; \quad H_y = 0; \quad H_z = -j\gamma_0^2 \frac{\partial \Pi}{\partial x}. \qquad (1)$$

where γ_0 is the propagation constant for a wave in free space, while ε and μ are permittivity and permeability of the medium filling the waveguide. The cross-section of the system is illustrated in Fig. 1. The function Π is a sinusoidal function of time and satisfies the three-dimensional Helmholtz equation at suitable boundary conditions at the walls of the waveguide. The cross-section of the waveguide is divided into a number of rectangular regions, ..., N (N = 5 in Fig. 1). Each region ... give a general solution ... wave ... an infinite sum of ... value of the ... the subscript n:

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$$\Pi_i = \sum_{n=0}^{\infty} B'_{in} \sin r''_{in}(x - \alpha_i) \cos r_{in} y e^{-j\gamma z} \qquad (1a)$$

where $r_{in} = n\pi/b_i$; $n = 0, 1, 2\ldots$, $r''_{in} = \sqrt{k^2 - r_{in}^2}$; $\gamma^2 = \gamma_0^2 \varepsilon\mu - k^2$. From the boundary conditions at the walls $x = 0$, $x = d_N$, it is found that $\alpha_1 = 0$ and $\alpha_N = d_N$. The intermediate values α_i can be determined from the continuity conditions for the solutions of Eqs. (1) at the boundaries between the various rectangular regions. If only the waves of the lower type are considered, k should have values lower than any π/b_i, which means that:

$$r''_{in} = j\sqrt{r_{in}^2 - k^2} = jr'_{in}$$

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which is imaginary for all $n > 0$. By considering the general solution as given by Eq. (1a), it is found that the approximate expression for the numerical calculation of the constant γ for the case of $b_i < b_{i+1}$ is:

$$\operatorname{ctg} k(d_l - a_l) = \frac{b_l}{b_{l+1}} (\operatorname{ctg} k(d_l - a_{l+1}) + \tag{5}$$

$$+ \frac{2\gamma_0 \varepsilon_{l+1}}{k} \sum_{n=1}^{\infty} \frac{r'_{l+1,n} \operatorname{cth} r'_{l+1,n}(d_l - a_{l+1})}{(\gamma_0^2 \varepsilon_{l+1} - r^2_{l+1,n})} \left(\frac{\sin r_{l+1,n} b_l}{r_{l+1,n} b_l} \right)^2 \Bigg\};$$

and for $b_i > b_{i+1}$, it is:

$$\operatorname{ctg} k(d_l - a_{l+1}) = \frac{b_{l+1}}{b_l} \Bigg\{ \operatorname{ctg} k(d_l - a_l) + \tag{6}$$

$$+ \frac{2\gamma_0 \varepsilon_l}{k} \sum_{n=1}^{\infty} \frac{r'_{ln} \operatorname{cth} r'_{ln}(d_l - a_l)}{(\gamma_0^2 \varepsilon_l - r^2_{ln})} \left(\frac{\sin r_{ln} b_{l+1}}{r_{ln} b_{l+1}} \right)^2 \Bigg\}.$$

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Eqs. (5) and (6) represent the final set of formulae consisting of (N - 1) equations and containing (N - 1) unknowns, k, α_2, ... α_{N-1} (γ_o should be regarded as a parameter). This system of equations can be solved by assuming a certain value of the parameter γ_o for a given waveguide cross-section and then determining the number k. The procedure is then repeated for various values of γ so that a graph giving $k = f(\gamma_o)$ is constructed. This graph is then used in the calculation of the propagation constant $\gamma^2 = \gamma_o^2 \varepsilon\mu - k^2$. A numerical example is given. From this it is found that the differences between the propagating constant γ_{LM} and γ_{TE} of the longitudinal LM- and TE-waves are most pronounced at the values of γ_o near to the critical value of 0.76. This difference becomes negligible as γ_o increases. There are 1 figure and 3 Soviet references.

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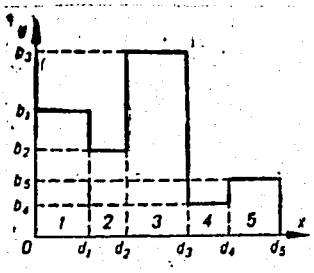
Longitudinal Waves ....

ASSOCIATION: Kafedra fiziki Moskovskogo stankoinstrumental'nogo instituta im. I.V. Stalina (Chair of Physics of Moscow Machine-tool and Instrument Institute im. I.V. Stalin)

SUBMITTED: March 28, 1960

Fig. 1:



Card 6/6

21430
S/109/61/006/001/008/023
E032/E114

9.1300 (incl 3301; also 1130)

AUTHOR: Yashkin, A.Ya.

TITLE: Uniform bends of П- and T-waveguides in the E-plane

PERIODICAL: Radiotekhnika i elektronika, Vol.6, No.1, 1961, pp. 67-73

TEXT: The author derives the system of equations relating the critical wavelength with the dimensions of П- and T-waveguides, uniformly curved in the E-plane. The corresponding problem in the H-plane was considered in the author's previous work (Ref.1). An example is given for the calculation of the critical wave in a curved П-waveguide. The author shows that the bend of a П-waveguide in the E-plane increases the characteristic number and decreases the critical wavelength in comparison with the wavelength of a straight П-waveguide, except for small d_1 (Fig.1). However, the formation of a step in the curved rectangular waveguide leads to increase of the critical wavelength for all d_1 not too small. For small d_1 the formation of the step in a curved rectangular waveguide can lead to decrease of the critical wavelength.

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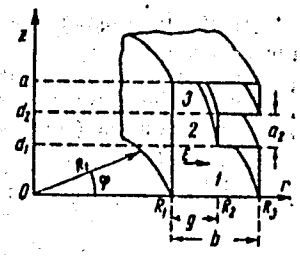
S/109/61/006/001/008/023

Uniform bends of II- and T-waveguides .. E032/E114

There are 4 figures and 7 Soviet references.

SUBMITTED: December 28, 1959

Fig.1



Card 2/2

S/109/61/006/005/008/027
D201/D303

9,1300 (1130)

AUTHOR: Yashkin, A.Ya.

TITLE: A method of designing straight and bent wave guides of composite cross-sections in systems permitting the separation of variables

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 5, 1961, 754 - 766

TEXT: In all problems of designing wave guides with complex cross-sections the main difficulty arises when one has to find eventually the form of a solution permitting numerical calculations. The author has already proposed a method of designing straight wave guides with complex cross-sections (Ref. 4: Novyy metod priblizhennogo rascheta volnovodov so slozhnoy formoy poperechnogo secheniya, Radiotekhnika i elektronika, 1958, 3, 6, 831), and (Ref. 5: Ob odnom metode rascheta volnovodov treugol'nogo i trapetsevidnogo

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A method of designing....

secheniya, Radiotekhnika, 1958, 13, 10, 3), based on representation of the complex cross-section in the form of an aggregate of N simple rectangular regions. The generalization of this method permits calculations in any orthogonal system which allows the variables to be separated. According to the perturbations method of A.G. Gurevich (Ref. 6: Polyye rezonatory i volnovody (Hollow Resonators and Waveguides) Izd. Sovyetskoye radio, 1952) any complex part of the wave guide cross-section can be reduced, in small steps to a stepped cross-section. The steps may be taken as sections of ordinate planes so that any wave guide design can be reduced to the design of one having a stepped shape. In analyzing straight wave guides it is necessary to assume the wave guide axis coinciding with one of the coordinate axes, which, therefore, must be a straight line. Hence, it is necessary to choose from various curvilinear co-ordinates q_1, q_2, q_3 generalized cylindrical co-ordinates with the cartesian axis $q_1 = z$. Bent wave guides can also be calcu-

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A method of designing ...

lated using this method. The metric co-efficients for the generalized cylindrical co-ordinates are

$$h_1 = 1,\ h_2 = h_2(q_2, q_3),\ \ h_3 = h_3(q_2, q_3), \qquad (1)$$

and automatically, therefore, satisfy the conditions of resolving the Maxwell equations into TE- and TM-types with respect to the Cartesian axis q_1 as found in G.V. Kisun'ko (Ref. 7: Elektrodinamika polykh sistem (Electrodynamics of Hollow Systems) Izd. VKAS, 1949). By expressing the components of the field by the electric Π^*_E and magnetic Π^*_H potential functions as quoted in B.A. Vvedenskiy and A.G. Arenberg (Ref. 8: Radiovolnovody (Radio Waveguides) GTI, 1946) and assuming the fields to be periodic in time - each of the above functions must satisfy the three-dimensional wave equation of Helmholtz (with the corresponding boundary conditions as given in Ref. 8 (op.cit.))

$$\frac{\partial^2 \Pi^*}{\partial q_1^2} + \frac{1}{h_2 h_3}\left[\frac{\partial}{\partial q_2}\left(\frac{h_3}{h_2}\frac{\partial \Pi^*}{\partial q_2}\right) + \frac{\partial}{\partial q_3}\left(\frac{h_2}{h_3}\frac{\partial \Pi^*}{\partial q_3}\right)\right] = \gamma_0^2 \varepsilon \mu \Pi^* = 0, \qquad (2)$$

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A method of designing ...

where γ_0 - propagation constant of the wave in free space; ε, μ - the specific inductive capacitance and the magnetic inductivity of the wave guide medium respectively. In the present article, the author describes a method of integrating the wave equation for a stepped complex wave guide, in which the steps are formed by sections of co-ordinate planes of an orthogonal system which permits the separation of variables. The three-dimensional Eq. (2) can be resolved into two

$$\frac{d^2Z}{dq_1} + \gamma^2 Z = 0 \qquad (3)$$

and

$$\frac{1}{h_2 h_3}\left[\frac{\partial}{\partial q_2}\left(\frac{h_3}{h_2}\frac{\partial \Pi}{\partial q_2}\right) + \frac{\partial}{\partial q_3}\left(\frac{h_2}{h_3}\frac{\partial \Pi}{\partial q_3}\right)\right] + k^2\Pi = 0. \qquad (4)$$

where

$$k^2 = \gamma_0^2 \varepsilon\mu - \gamma^2. \qquad (5)$$

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